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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,036	08/23/2005	Franz Hauner	40045-23 US	4449

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NEXSEN PRUET, LLC
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EXAMINER	
SHEVIN, MARK L	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/521,036	HAUNER ET AL.	
	Examiner	Art Unit	
	Mark L. Shevin	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2008 and 30 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-8,21-22,and 31-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,8,21,22,31 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-5, 7-8, 21-22, and 31-32, filed June 24th, 2008, are currently under examination. Claims 6, 9-20, and 23-30 are cancelled, claims 1-5, 7-8, and 21-22 are amended, and claims 31-32 are new.

Status of Previous Rejections

2. The previous rejection of claims 23-30 under 35 U.S.C. 112 second paragraph and 35 U.S.C. 101 in the Office action dated March 26th, 2008 have been withdrawn in view of cancellation of these claims.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. **Claims 1-5, 7-8, 21-22, and 31-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hauner** (US 5,429,656) in view of **Broverman** (US 3,641,298) and **Hutcherson** (US 5,233,143).

Hauner:

Hauner teaches silver-base contact materials for low-voltage switches with active refractory components such as iron oxide, rhenium oxide, and zirconium oxide (Abstract). Hauner teaches the inclusion of between 1 and 50 wt% of iron oxide (Fe_2O_3 or Fe_3O_4) in a silver base with between 0.01 and 5 wt% of additional active components such as rhenium oxide, bismuth zirconate, boron oxide, or zirconium oxide (Col. 2, lines 13-31). Thus Hauner teaches an electrical contact material comprising a matrix made of

a conductive metal (Ag) with a refractory fraction (Iron oxide), but does not teach the presence of an "unstable fraction having the property of decomposing between the operating temperature of the electrical contact and the metal point of said metal, with the release of gas capable of destabilizing an electric arc."

Broverman:

Broverman teaches an electrical contact material with a conductive metal such as copper, silver, iron, or nickel as the base (Col. 1, lines 67-75) with an unstable fraction of metal hydride such as titanium hydride (Col. 1, lines 36-41). Broverman teaches that metal hydrides release hydrogen yet Broverman does not teach this as "capable of destabilizing an electric arc."

Hutcherson:

Hutcherson teaches electrode devices with metal hydrides disposed thereon (Claim 1) that can modified to be used as a circuit breaker in electrical power delivery systems (Col. 1, lines 16-20). Hutcherson teaches a two electrode device where electrodes 17 and 17a are held together and pass current as part of a power cable. When current interruption is desired, the two electrodes are moved apart mechanically, drawing an arc between them. This arc heats the hydride materials in the electrodes and raises the gas pressure, helping to extinguish the arc and forming a successful current interruption (Col. 5, lines 35-45).

Regarding claim 1, It would have been obvious to one of ordinary skill in metallurgy, at the time of the invention, taking the disclosures of Hauner, Broverman, and Hutcherson as a whole, to combine Hauner in view of Broverman and Hutcherson

to produce an electrical contact material with an unstable metal hydride fraction that release a gas to destabilize an electric arc with a refractory fraction as well.

This is because Hauner teaches contacts for electrical switches and that such switches are expected to have low welding tendency, good corrosion resistance, and long life with respect to switch intensities (Col. 2, lines 15-20) using a refractory fraction of iron oxide while Broverman teaches the addition of metal hydrides to avoid surface deterioration such as erosion or oxidation (Col. 1, lines 3-12) and finally Hutcherson teaches that metal hydrides in an electrode, when struck by an arc, release hydrogen and thus extinguish the arc (Col. 5, lines 35-45). Together Hauner and Broverman produce an electrical contact material with metal hydride and refractory fractions and Hutcherson teaches that such metal hydride additions release a gas, hydrogen, capable of destabilizing the arc formed between such electrodes.

According to Broverman, the hydrogen gas is released by the metal hydride fraction at temperature above about 300 °C (Col. 2, lines 21-37)

With respect to the amendment to claim 1 changing "characterized in that" to "wherein", this amendment does not change the scope of the claim as rejected as the limitations modified by "characterized in that" where previous interpreted as being introduced by "wherein"

Regarding claims 2 and 7, Hauner teaches the matrix of his electrical contact material is silver (Abstract) and includes a refractory metal fraction of iron oxide (Fe_2O_3). Also, Broverman teaches that the electrode may consist essentially of silver in additional to the metal hydride fraction (Col. 1, lines 67-72).

With respect to the amendment to claims 2 and 7, changing "characterized in that" to "wherein", this amendment does not change the scope of the claim as rejected as the limitations modified by "characterized in that" where previous interpreted as being introduced by "wherein"

Regarding claims 3-5, Broverman teaches that suitable metal hydrides include zirconium hydride, titanium hydride, lithium hydride, calcium hydride, barium hydride, and yttrium hydride (Col. 2, lines 15-20 and 27-37). Hauner teaches that the refractory iron oxide fraction is present between 1 and 50 wt%. The Examiner holds that this range, when converted to vol%, overlaps the range claimed in claim 5 and thus establishes a prima facie case of obviousness. MPEP 2144.05, para I states: "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists."

With respect to the amendment to claims 3-5 changing "characterized in that" to "wherein", this amendment does not change the scope of the claim as rejected as the limitations modified by "characterized in that" where previous interpreted as being introduced by "wherein"

Regarding claim 8, Hauner, as stated in the rejections immediately above, teaches the refractory fraction, iron oxide, is present between 1 and 50 wt% in the silver base electrode of his invention while Broverman teaches that the metal hydride fraction may be present from 0-20 vol%. The sum of these fractions overlaps the claimed range of additive material fractions and thus establishes a prima facie case of obviousness.

With respect to the amendment to claim 8 changing "characterized in that" to "wherein", this amendment does not change the scope of the claim as rejected as the limitations modified by "characterized in that" where previous interpreted as being introduced by "wherein"

Regarding claims 21 and 22, Hauner teaches a silver base contact material comprising 1 to 50 wt% iron oxide (refractory fraction) (claim 1) while Broverman teaches the addition of a metal hydride such as titanium hydride to an electrical contact material (claim 1).

With respect to the amendment to claim 21, adding that the unstable fraction releases a gas capable of destabilizing an electric arc between the operating temperature and the melting point of the silver, Broverman teaches that the unstable fraction disassociates between the temperature of use of the electric contact and the melting temperature of said metal, while discharging a gas (Fig. 7, top of portion 22 is open, col. 5, lines 1-3). Hydrogen gas is released by the metal hydride at temperatures above about 300 °C (col. 2, lines 21-37).

Furthermore, from MPEP 2112, para. V, subpara 1: "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...". Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either

anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

One of ordinary skill would be motivated to form an electrical contact material as instantly claimed with the claimed content of refractory material and hydrides for the aforementioned reasons and as such forming the same electrical contact material will mean such a product will possess the same properties.

With respect to the amendment to claim 22 changing "characterized in that" to "wherein", this amendment does not change the scope of the claim as rejected as the limitations modified by "characterized in that" where previous interpreted as being introduced by "wherein"

Regarding new claims 31 and 32, one of ordinary skill in the art would reasonably expect that the electrical contact material formed from the combination of cited references as explained above would have the stated properties and perform the same under the same conditions as the properties of such a product stem from the composition.

From MPEP 2112, para. V, subpara 1: "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103,

jointly or alternatively, the burden of proof is the same...". Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

One of ordinary skill would be motivated to form an electrical contact material as instantly claimed with the claimed content of refractory material and hydrides for the aforementioned reasons and as such forming the same electrical contact material will mean such a product will possess the same properties.

Response to Applicant's Arguments:

4. Applicant's arguments filed June 24th, 2008 have been fully considered but they are not persuasive.

Applicants assert (p. 3, para 2 and 3) that one skilled in the art has no motivation to use the teaching of Broverman to solve the problem of rapid extinction of an electric arc.

In response, Hauner however teaches silver-base contact material for low-voltage switch with refractory components and the combination of Hutcherson and Broverman teach that the inclusion of an unstable hydride fraction where heating of the hydride releases hydrogen gas which extinguishes / destabilizes an electric arc drawn

between electrical contacts. Indeed both Broverman and Hutcherson are drawn to electrical contacts or contact materials and thus there is motivation to combine the references, in particular for destabilizing an electric arc as Hutcherson teaches that hydrogen gas does just this when releases from hydrides. Also in destabilizing an electric arc, one of ordinary skill would know that surface erosion and wear often occurs and is one of the many reasons why arcs are to be stopped as soon as possible. To this end, Broverman teaches that the addition of metal hydrides avoids surface erosion and oxidation (col. 1, lines 3-12).

Applicants assert (p. 5, para 5 - p. 6, para 6) that in combining the teachings of Hutcherson with the teachings of Broverman and Hauner one of ordinary skill would also have introduced contacts or electrodes in an insulating chamber. Furthermore, Applicants assert that the instant combination of references do not teach or suggest that the released gas will destabilize an electric arc in air.

In response, the Examiner notes only new claims 31 and 32 require the gas released to be capable of destabilizing an electric arc in air. Nevertheless, Hutcherson teaches that heating a hydride will release hydrogen gas and the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

One of ordinary skill would be motivated to form an electrical contact material as instantly claimed with the claimed content of refractory material and hydrides for the aforementioned reasons and as such forming the same electrical contact material will mean such a product will possess the same properties. If the instant invention releases hydrogen gas to extinguish an electric arc in air, then how is it that the same product formed by the combination of cited references does not function the same if the arc extinguishing property stems from the composition of the electric contact metal?

From MPEP 2112, para. V, subpara 1: "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...". Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Furthermore, Applicants assert (p. 6, final para) that Broverman is directly to a problem that is nonexistent in the instant invention, namely the problem of oxidation.

In response, the Examiner notes that silver exposed to air will oxidize and form the tarnish so familiar to owners of fine silver and thus the problem of oxidation is relevant.

Pertinent Prior Art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references demonstrate hydrogen gas as capable of destabilizing electric arcs:

Yeon: US 7,186,941 B2

Shea: US 7,091,438 B2

Yamaguchi: US 5,841,088

Sember: US 4,443,673

Graybill: US 2,571,864

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

-- Claims 1-5, 7-8, 21-22, and 31-32, are finally rejected
-- No claims are allowed

The rejections above rely on the references for all the teachings expressed in the texts of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the texts of the references. To emphasize certain aspects of the prior art, only specific portions of the texts have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

All recited limitations in the instant claims have been met by the rejections as set forth above. Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Any inquiry concern-ing this communication or earlier communications from the examiner should be directed to Mark L. Shevin whose telephone number is (571) 270-3588 and fax number is (571) 270-4588. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy M. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Mark L. Shevin/
Examiner, Art Unit 1793
/Roy King/
Supervisory Patent Examiner, Art Unit 1793
September 6th, 2008
10-521,036